DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

T00012WI
Revision 7
Cessna
680
May 14, 2010

TYPE CERTIFICATE DATA SHEET NO. T00012WI

This data sheet, which is part of Type Certificate No. T00012WI, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder — Cessna Aircraft Company
P.O. Box 7704
Wichita, Kansas 67277

1 - Model 680 Sovereign, (Transport Category), Approved June 2, 2004

Engines — Two Pratt & Whitney Canada Corp. PW306C turbofans

Fuel — Commercial kerosene Jet A, Jet A-1, Jet B, JP-4, JP-5, or JP-8.

Engine Limits Static thrust standard day, sea level

Takeoff	5770 lb.
Max. Continuous	5770 lb.

Max. permissible engine rotor operating speeds (Takeoff and Maximum Continuous):

N_1(fan)	105.0%	(100% = 10,608 r.p.m.)
N_2 (Gas Gen.)	105.0%	(100% = 26,930 r.p.m.)

Max. permissible interturbine gas temperatures:

Takeoff	920 Degrees C
Max. continuous	920 Degrees C
Transient (20 sec.) and starting	950 Degrees C

Airspeed limitations

Vmo (maximum operating)	
Sea level to 8,000 ft.	270 KIAS (270 KCAS)
8,000 ft. to 29,833 ft.	305 KIAS (305 KCAS)
Mmo above 29,833 ft.	0.80 M_I (0.80 MACH calibrated)
Va (maneuvering sea level)	
30,000 lb.	169 KIAS (169 KCAS)
See AFM for variations with weight and altitude.	
Vb (speed for max. gust intensity)	225 KIAS (225 KCAS)
Flap extension speeds	
V_{FE} (0° to 7° extension)	250 KIAS (250 KCAS)
V_{FE} (7° to 15° extension)	200 KIAS (200 KCAS)
V_{FE} (15° to 35° extension)	175 KIAS (174 KCAS)

1 - Model 680 Sovereign (cont'd)

Airspeed limitations (cont'd)

V_{MCA} (Minimum control speed) Air 7 deg flaps	92 KIAS (93 KCAS)
V_{MCA} (Minimum control speed) Air 15 deg flaps	90 KIAS (91 KCAS)
V_{MCL} (Minimum control speed) Landing 15 deg flaps	88 KIAS (89 KCAS)
V_{MCL} (Minimum control speed) Landing 35 deg flaps	84 KIAS (84 KCAS)
V_{MCG} (Minimum control speed) Ground 7 deg flaps	96 KIAS (97 KCAS)
V_{MCG} (Minimum control speed) Ground 15 deg flaps	97 KIAS (98 KCAS)
V_{LO} (landing gear operating)	210 KIAS (207 KCAS)
V_{LE} (landing gear extended)	210 KIAS (207 KCAS)
V_{SB} (speed brakes extended)	Any speed with or without flaps
Maximum autopilot operating speed	
Seal level to 8,000 ft.	270 KIAS (270 KCAS)
8,000 to 29,833 ft.	305 KIAS (305 KCAS)
Above 29,833 ft.	0.80 M_I (0.80 MACH calibrated)
Maximum tire ground speed	165 knots

C.G. Range (Landing Gear Extended) Design C.G. Limits:

Forward: 18.00% MAC at 16,000 lbs. To 23,700 lbs.
Linear variation from 18.00% MAC at 23,700 lbs. to 21.43% MAC at 30,550 lbs
Takeoff Forward 21.30% at 30,300 lbs.

Aft: 31.00% MAC at 16,000 lbs. To 23,000 lbs.
30.00% MAC at 26,000 lbs. To 27,100 lbs.
31.00% MAC at 28,500 lbs. To 30,550 lbs.
With straight line variation between points.

Landing Gear retracting moment (-8095) in-lb.

Empty Wt. C.G. Range: Forward of +425.00 in. aft of datum

MAC: 107.06 in. (L.E. of MAC at +382.68 in. aft of datum)

Maximum Weight

Takeoff	30,300 lb.
Landing	27,100 lb.
Zero Fuel	20,800 lb.
Ramp	30,550 lb.

Minimum Crew for all Flights: One pilot and one copilot

Number of Seats: Maximum fourteen (two crew plus twelve passenger seats)

Maximum Baggage

Aft cabin	295 lb. (+440.82 in. aft of datum)
Tailcone	1,000 lb. (+522.07 in. aft of datum)

1 - Model 680 Sovereign (cont'd)

Fuel Capacity (usable)	Total usable fuel 11223 lb. (1675.2 gal). Two wing tanks with 5611.5 lbs. (837.6 gal) usable each; (see NOTE 1 for unusable) +412.80 in. aft of datum.		
Oil Capacity (usable)	Tank mounted on each engine: 5.28 quarts usable each engine; +534.17 in. aft of datum; (see NOTE 1)		
Maximum Operating Altitude	47,000 ft.		
Control Surface Movements			
	Elevator	Up	16.6 +1/-0 degrees
		Down	9.4 +1/-0 degrees
	Elevator Trim Tab	Down	2.1 +/-0.5 degrees
		Down	11.0 +/-0.5 degrees
		The upper and lower elevator trim tab limits are both below the control surface neutral position.	
	Rudder	Right	30.5 +/-0.5 degrees
		Left	30.5 +/-0.5 degrees
	Rudder Trim Tab	Right	3.0 +/-0.5 degrees
		Left	3.0 +/-0.5 degrees
	Horizontal Stabilizer	Up	6.9 +/-0.5 degrees
		Down	1.2 +/-0.5 degrees
	Aileron Left	Up	18.8 +/-0.5 degrees
		Down	13.4 +/-0.5 degrees
	Aileron Right	Up	18.5 +/-0.5 degrees
		Down	13.6 +/-0.5 degrees
	Aileron Trim Tab	Up	10.0 +/-0.5 degrees
		Down	10.0 + /-0.5 degrees
	Wing Flap	Up	0 +.2/-0.2 degrees
			7 +/-0.5 degrees
			15 +/-1.0 degrees
		T.O./Appr.	0 +/-0.2 degrees
			7 +/-0.5 degrees
			15 +/-1.0 degrees
		Land	35 +2.0/-2.0 degrees
		Ground	0-35 +2.0/-2.0 degrees
	Speed Brakes – Panels 5,6		0-24.0 +1.0/-1.0 degrees
	Speed Brakes – Panels 1,10		0-35.0 +1.0/-1.0 degrees
	Roll Spoilers – Panels 2,3,8,9		0-35.0 +1.0/-1.0 degrees
	Roll Spoilers – Panels 4,7		0-24.0 +1.0/-1.0 degrees
	See Airplane Maintenance Manual for rigging instructions.		
Serial Nos. Eligible	680-0001 and on		
Datum	140.40 in. forward of the nose jack point.		
Leveling Means	Longitudinal - Place level on the outboard floor panel at BL 13.00 inches, inside of the cabin door. Lateral - Place level across inboard seat tracks behind crew seats at most aft position.		

Certification Basis:

(1) 14 CFR Part 25 of the Federal Aviation Regulations effective February 1, 1965, as amended by amendments 25-1 through 25-98;

(2) 14 CFR Part 34 of the Federal Aviation Regulations effective September 10, 1990, as amended by amendments 34-1 through 34-3;

(3) 14 CFR Part 36 of the Federal Aviation Regulations effective December 1, 1969, as amended by amendment 36-1 through 36-28;

(4) Compliance with the Noise Control Act of 1972;

(5) Special Conditions as follows:
- (a) No. 25-214-SC, High Intensity Radiated Fields (HIRF).
- (b) No. 25-248-SC, Side-Facing Single-Occupant Seats.

(6) Exemption as follows:
- (a) Exemption No. 7625A, from the general occupant protection requirements of §25.785(b) for multiple-occupancy, side-facing divans.
- (b) Exemption No. 8280, from the lateral trim requirements of 14 CFR 25.161(d).

(7) Equivalent level of safety as follows:
- (a) TC2548WI-T-AG-1, Ditching Emergency Exits for Passengers.
- (b) TC2548WI-T-AG-2, Door Between Passenger Compartments.
- (c) TC2548WI-T-AG-3, Width of Aisle.
- (d) TC2548WI-T-AG-4, Exit Locator and Exit Marking Signs.
- (e) TC2548WI-T-AG-5, Placards for Main Entry Door.
- (f) TC2548WI-T-AG-6, Gust and Continuous Turbulence Loads.
- (g) TC2548WI-T-F-1, Use of 1-G Stall Speeds Instead of Minimum Speed in the Stall as a Basis for Determining Compliance.
- (h) TC2548WI-T-P-1, Digital APU Indicators (Oil Temperature, Gas Temperature, Tachometer).
- (i) TC2548WI-T-P-2, Digital Engine Parameter, Fuel Flow.
- (j) TC2548WI-T-P-5, Use of Single Fire Suppression Bottle for Protection of APU and Baggage Compartment.
- (k) TC2548WI-T-P-6, Certification of Thrust Reversers
- (l) TC2548WI-T-SE-5, Electric Standby Direction Indicator (Compass).
- (m) TC2548WI-T-SG-1, Cabin Pressurization - High Altitude Takeoff and Landing Operation.

(8) 14 CFR § 25.801 ditching not complied with.

(9) Compliance with ice protection has been demonstrated in accordance with 14 CFR § 25.1419.

Application for type certificate was dated November 24, 1999.

Production Basis Production Certificate No. 4 amended to add Model 680 effective September 1, 2004. See Note 10 for airplane serial effectivity of Production Certificate No. 4 on new airplane serials.

Equipment The Basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1. Current weight and balance information, including list of equipment included in certificated empty weight, and loading instructions are provided for each airplane at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include:

Unusable fuel	82.9 lb. at +405.86 in.
Full oil	33.57 lb. at +534.17 in.
Hydraulic Fluid	46.83 lb. at +505.53 in.

NOTE 2. Airplanes must be operated according to the FAA Approved Airplane Flight Manual, part number 68FM-00 (or later FAA approved revision). Required placards and markings are listed in Chapter Eleven (11) of Illustrated Parts Catalog, part number 68PC00 (or later revision).

NOTE 3. See Maintenance Manual, Chapter Four (4), "Airworthiness Limitations" for inspections, mandatory retirement life information, and other requirements for continued airworthiness.

NOTE 4. Aircraft definition for Type Certificate is Parts List 6900000, Airplane Assembly.

NOTE 5. Certification Maintenance Requirements (CMR) are found in Maintenance Manual, Chapter Four (4). Engineering approval of the CMR's is documented in the Cessna System Safety Assessment reports.

NOTE 6. Deleted.

NOTE 7: The Model 680 has been approved for high altitude operations (altitudes above 41,000 feet) by compliance with certain Park 25 sections. To ensure the compliance is maintained, any modifications to the pressure vessel must be approved in accordance with the requirements as shown in the appropriate certification basis. To ensure pressurization compliance is not affected, this includes modifications which could result in a pressure vessel opening, either through crack-growth or antenna loss, greater than 3.98 sq. in.

NOTE 8: The Model 680 received a Provisional Type Certificate on December 24, 2003, that was subsequently cancelled when the Type Certificate was issued on June 2, 2004.

NOTE 9: The Model 680 has been shown to meet the airworthiness requirements for operations in Reduced Vertical Separation Minimum (RVSM) airspace. No Service Bulletin is associated with this requirement. All serial numbers are eligible. Airworthiness approval is documented in Cessna compliance report AV-680-108, Model 680 RVSM Certification.

NOTE 10: Production Certificate No. 4 applies to Model 680 serial numbers 680-0005 and on.

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